REMARKS

Claims 1, 5 and 7 are all the claims pending in the application. Applicants thank the Examiner for indicating that claims 5 and 7 are allowed.

I. Claim Rejections under 35 U.S.C. § 103(a)

A. Claim 1 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over any of JP 2000-326430 (hereafter "the JP '430 reference"), Clark (US 6,004,652), Shorten et al. (US 6,029,962) or Sell et al. (US 6,385,864) (see items 5 and 6 on pages 3-5 of the Office Action).

Regarding claim 1, Applicants note that this claim has been amended to recite that a ratio between a total area of lower base portions of said hollow protrusions and an area of liner portions of the thermoplastic resin sheets is in a range from 0.3 to 0.58, wherein a rising angle of a side face of each of said hollow protrusions in a vertical plane including a central axis of the hollow protrusion is in a range from 50 degrees to 70 degrees, and wherein a bending elasticity gradient of said hollow structure plate is equal to or greater than 420 N/cm.

Applicants respectfully submit that the prior art references identified above do not render obvious the above-noted combination of features recited in claim 1 for at least the following reasons.

Regarding the above-noted features recited in claim 1, Applicants note that in the Response to Arguments section of the Office Action, the Examiner has indicated that while applicant argues that the claimed invention would not be obvious over any of JP '430, Clark, Shorten, or Sell, because of the good bending characteristics that are achieved by the features set forth in claim 1, that "there are no bending characteristics recited in the claim" (see Office

Action at pages 5-6).

In view of this comment made by the Examiner, Applicants note that claim 1 has been amended as indicated above so as to explicitly recite that a bending elasticity gradient of said hollow structure plate is equal to or greater than 420 N/cm. Applicants note that support for this feature can be found in Table 1 on page 16 of the specification.

In this regard, Applicants note that the specification clearly explains that by providing the configuration set forth in claim 1 (including the claimed "ratio" and "rising angle"), that it is possible to obtain a hollow structure plate having good bending characteristics (e.g., see Table 1 on page 16 of the specification, and the disclosure on page 16 of the specification at lines 9-17). For example, as is evident from Table 1, the bending elasticity gradient of Example 5 (i.e., Ex.5), where the "ratio" is greater than 0.6, is only 410 N/cm, whereas the bending elasticity of Examples 1-4 (i.e., Ex.1 - Ex.4), where the "ratio" is less than or equal to 0.58, is equal to or greater than 420 N/cm.

Additionally, when comparing Example 2 (i.e., Ex.2) and Comparative Example 4 (i.e., Com.Ex.4) as shown in Table 1, where the "ratio" is the same value (i.e., 0.51), webbing occurred and a satisfactory hollow structure plate was not obtained in Comparative Example 4, where the "angle" was not within "50 to 70 degrees". In contrast, in Example 2 (i.e., Ex.2), where the "angle" is within "50 to 70 degrees", the bending elasticity gradient of 500 N/cm is obtained.

In view of the foregoing technical advantages that are provided by utilizing the above-noted combination of features recited in claim 1, Applicants respectfully submit that the features recited in claim 1 would not be a matter of mere design choice to one of ordinary skill in the art.

In this regard, Applicants note that the Federal Circuit has held that a claimed invention should not be rejected as a mere "design choice" when the Applicant presents evidence of the technical advantages of the Applicant's structure. *See In re Chu*, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995). Here, as described above, Applicant's disclosure identifies the operational benefits obtained by utilizing a hollow structure plate having the above-noted configuration, and note that claim 1 has been amended such that the operational benefits are explicitly recited therein.

In view of the foregoing, Applicants respectfully submit that that the combination of features recited in claim 1 would not have been a simple matter of design choice.

Further, with respect to the Examiner's position that a "change in shape and/or size" is generally within the skill level of one of ordinary skill in the art, Applicants respectfully submit that such a change in shape and/or size would not be obvious if the claimed dimensions provide technical advantages over the prior art. For example, as explained in MPEP 2144.04(IV)(A), where the "only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device" (emphasis added).

Taking the foregoing into account, Applicants note that while a claimed device having dimensions different than the prior art device may be obvious if the claimed device would not perform differently than the prior art device, in the present situation, because the claimed "ratio" and "angle" as set forth in claim 1 causes the claimed device to perform differently than the prior art devices by achieving superior bending characteristics, namely, a bending elasticity gradient

that is equal to or greater than 420 N/cm (with this benefit being explicitly recited in claim 1), Applicants respectfully submit that it would not have been obvious to one of ordinary skill in the art to modify the prior art devices so as to have the above-noted combination of features recited in claim 1.

In view of the foregoing, Applicants respectfully submit that the cited prior art references do not render obvious the above-noted combination of features recited in amended claim 1 which set forth that a ratio between a total area of lower base portions of said hollow protrusions and an area of liner portions of the thermoplastic resin sheets is in a range from 0.3 to 0.58, wherein a rising angle of a side face of each of said hollow protrusions in a vertical plane including a central axis of the hollow protrusion is in a range from 50 degrees to 70 degrees, and wherein a bending elasticity gradient of said hollow structure plate is equal to or greater than 420 N/cm.

Accordingly, Applicants submit that amended claim 1 is patentable over the cited prior art, an indication of which is kindly requested.

II. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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